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JUNE 21, 1950
638,944
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638,944 COMPLETE SPECIFICATION

WELBURY

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

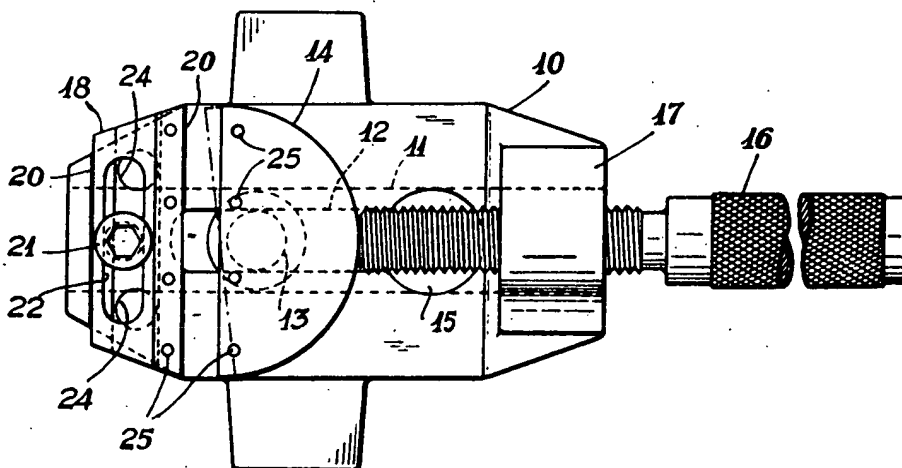


Fig. 2.

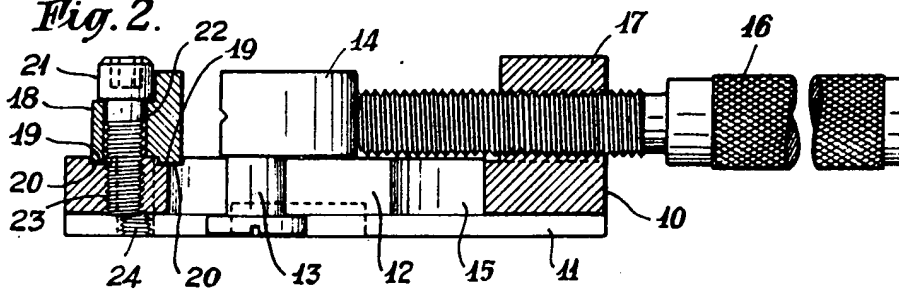
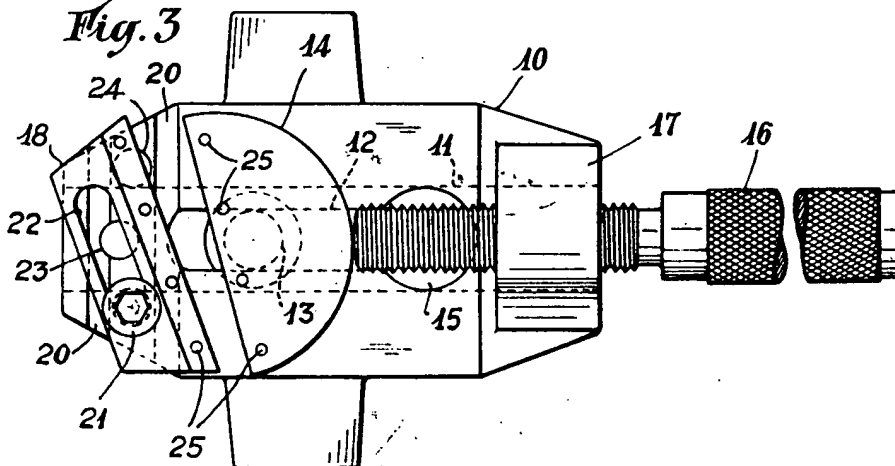


Fig. 3.



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270

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PATENT SPECIFICATION

638,944

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COPY

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PROVISIONAL SPECIFICATION.

Improved Machine Vice.

I, STANLEY GARTHWAITE WELBURY, a British Subject, of 15, Thornsett Road, Sheffield, 7, do hereby declare the nature of this invention to be as follows :—

5 This invention relates to machine vices.

A vice made according to this invention is provided with opposing jaws which are both movable, one being provided with a part cylindrical outer face and being mounted on a swivel pin by which it is slidable in a slot in the base block of the vice whereby said jaw can swivel about the pin as well as slide therewith. The other jaw is laterally slidable and is also capable of being swivelled about a securing screw which engages a slot in said jaw and a screw threaded hole in the base block of the vice, which slot may be parallel with or at an angle to the face of said jaw.

An end of this laterally slidable and swivelling jaw is acutely angled with the face thereof.

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Both jaws of the vice can therefore be set to take a work-piece transversely of the vice block at right angles or within a range of approximately 45° thereto at either side.

The longitudinally sliding and swivelling jaw is adapted to be moved for gripping a work-piece by a screw-threaded thrust spindle carrying a sliding tommy-bar or handle.

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Dated this 29th day of January, 1948.

MEWBURN, ELLIS & CO.,

70-72, Chancery Lane, London, W.C.2.

Chartered Patent Agents.

and 24, Norfolk Row, Sheffield, 1.

COMPLETE SPECIFICATION.

Improved Machine Vice.

I, STANLEY GARTHWAITE WELBURY, a British Subject, of 15, Thornsett Road, Sheffield, 7, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

30 This invention relates to machine vices of the kind having a rotatable inner jaw mounted on a swivel pin by which the jaw is also slidably accommodated in the base-block of the vice.

A machine vice of the before indicated kind made according to this invention comprises a base-block, a central longitudinal slot in the base-block slidably accommodating a headed swivel pin, an inner jaw having a part cylindrical outer face carried by said pin for movement therewith and engageable by a screw-threaded manipulable clamping spindle, an opposing outer jaw mounted on the base-block for slidable movement laterally of the base-block and capable of being swivelled about a securing screw which

engages the base-block, both of said jaws being positionable with their opposing gripping faces in parallel with one another or at an angle to one another when both are at other than at right angles to the longitudinal axis of the base-block.

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The longitudinal slot accommodating the swivel pin is provided in a recessed part of the under face of the base-block and may be provided at the end thereof, remote from the gripping end of the vice, with an enlargement to permit passage of the head of the pin therethrough and removal from the vice of the jaw carried by said pin.

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The outer jaw may be provided with one or more depending lugs for engaging one or more slots in the base-block arranged therein at right angles to the longitudinal axis thereof so as to ensure that the outer jaw can be positioned with its gripping face at right angles to the longitudinal axis of the base-block. The lug and groove engagement serves to take the thrust upon the outer jaw. In addition, the outer jaw is adapted to be

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disengageable from said groove or grooves so as to be positionable with its gripping face at an angle to said longitudinal axis.

For securing the outer jaw to the base-block, a securing screw passes through said jaw into screw thread engagement with the base-block.

Referring to the drawing filed herewith:—

Fig. 1 is a plan of one form of machine vice made in accordance with this invention.

Fig. 2 is a sectional elevation.

Fig. 3 is a plan similar to Fig. 1 but showing both jaws in a different position.

10 is a base-block of the vice the underface of which is longitudinally recessed at 11 and in this recessed face is a longitudinal slot 12 slidably accommodating a headed swivel pin 13 which is screw-threaded into an inner jaw 14, said jaw being movable with the pin and in contact with the face of the base-block. One end of the slot is provided with an enlargement 15 sufficient to admit passage of the headed pin for assembly of the jaw upon the vice and its removal therefrom.

25 The rear face of the jaw 14 is part cylindrical and is normally engageable by a clamping spindle 16 mounted in a lug 17 on the base-block so that on the jaw being swivelled within 90° in either direction it can always be clamped by engagement of its cylindrical face by the clamping spindle.

An opposing outer and laterally slidable jaw 18 is provided having lugs 19 on its opposite basal edges for engagement with grooves 20 arranged in the face of the base-block at right angles to the longitudinal axis thereof so that said jaw can be slidably adjusted in said grooves and be positionable therein with its gripping face at right angles to said axis. The opposing jaw 18 is held upon the base-block by a set screw 21 passing through a slot 22 in the jaw and engaging a hole 23 in the base-block, slackening of the said set screw permitting said jaw to be slidably moved. Where desired, the jaw 18 can be removed from engagement with its grooves 20 by removing the set screw 21 and placing it in one or other of two end holes 24 which are out of alignment with the hole 23, as shown in Fig. 3, the jaw then being free of the grooves 20 and disposed at an angle, other than a right angle, to the longitudinal axis of the base-block whereby the gripping faces of both jaws can be disposed in parallel or at an angle to one another when both are at other than a right angle to the longitudinal axis of the base-

block, the "land" or flat surface between the grooves 20 preventing the jaw 18 tilting when so disposed.

The upper faces of the two jaws are provided with holes 25 for the reception of pegs for gripping thin workpieces.

The inner jaw 14 can be swivelled 180° to present its cylindrical face opposite the gripping face of the outer jaw 18 whereby a workpiece gripped therebetween can be bent round against the cylindrical face of the jaw 14. In such cases, the straight and normal gripping face of said jaw 14 would be engaged by the clamping spindle 16.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A machine vice of the kind referred to comprising a base-block, a central longitudinal slot in the base-block slidably accommodating a headed swivel pin, an inner jaw having a part cylindrical outer face carried by said pin for movement therewith and engageable by a screw-threaded manipulable clamping spindle, an opposing outer jaw mounted on the base-block for slidable movement laterally of the base-block and capable of being swivelled about a securing screw which engages the base-block, both of said jaws being positionable with their opposing gripping faces in parallel with one another or at an angle to one another when both are at other than at right angles to the longitudinal axis of the base-block.

2. A machine vice according to Claim 1 wherein the inner jaw is subjected to the thrust of the clamping spindle upon its cylindrical face.

3. A machine vice according to Claim 1 or Claim 2, wherein the outer jaw has lug and groove engagement with the base-block such as to permit of slidable adjustment of said jaw at right angles to the longitudinal axis of the base-block.

4. A machine vice constructed, arranged and adapted for use substantially as described with reference to the accompanying drawing.

Dated this 31st day of January, 1949.

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